BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

SikaGrout®-212

High quality, versatile and non-shrink, cementitious grout

PRODUCT DESCRIPTION

SikaGrout®-212 is a non-shrink, cementitious grout with a unique two-stage shrinkage compensating mechanism, compensating for shrinkage in both the plastic and the hardened states. It is non-metallic, chloride-free and may be placed at various consistencies ranging from dry pack to fluid by simply adjusting the quantity of mixing water. A sulphate resistant grade, SikaGrout®-212 SR, and a silica fume modified grade, SikaGrout®-212 HP, are also available (see separate Product Data Sheets).

WHERE TO USE

- On grade, above and below grade, interior and exterior applications
- Structural grouting of column base plates, machine base plates, anchor bolts, bearing plates, bridge seats, precast wall panels
- On grouting projects where ability to adjust consistency and achieve accelerated strength development is required

CHARACTERISTICS / ADVANTAGES

- Pre-blended for easy application and maximum field control. Just add water, mix and place
- Versatile, can be applied in any consistency from dry pack to fluid by varying water content
- Reducing water content accelerates strength development and ultimate compressive strength
- Non-corrosive, does not contain chlorides
- Formulated with inert, non-reactive aggregates to eliminate potential Alkali-Aggregate Reactivity (AAR)
- Excellent pumpability - does not segregate even at high flow; no build-up on equipment hopper
- Low heat development
- Superior freeze/thaw resistance

APPROVALS / CERTIFICATES

- Product qualified by The Road Authority (TRA)
- Meets Ontario Hydro specification M-690-87 for pumping through grout pump and hoses for distances of up to 60 m (196 ft)
- Ministère des Transports et de la Mobilité Durable du Québec (MTMD) acceptance for grouting anchor bolts and reinforcing dowels in concrete
- Approved by the Alberta Ministry of Transportation
- Product recognized by the British Columbia Ministry of Transportation (BC MoT)
- Meets H. A. Simons grout specification 1S-05.01 for grout types 1, 2a, 2b, 2c, 3 and 4.
- Meets ASTM C1107 for Grade C type grouts.

PRODUCT INFORMATION

Packaging	25 kg (55 lb) bag

Colour	Concrete grey
Shelf Life	12 months in original, unopened bag
Storage Conditions	Store dry, ensuring that product is not exposed to rain, condensation or high humidity. For best results, condition product at 18 °C to 29 °C (65 °F to 84 °F) before using.
Granulometry	**Aggregate grading** 100 % passing 2.5 mm (3/32 in) (ASTM C136)
Resources and circular economy	Environmental Product Declaration: Type III - Product Specific (third-party verified) - CAN/CSA-ISO 14025:2006 & core standard ISO 21930:2017
Air quality and emissions	Inherently non-emitting material
Green building	LEED® projects: Contact Sika Canada for product contribution details and support

TECHNICAL INFORMATION

Compressive Strength

1 day	26 MPa (3770 psi)	(CAN/CSA A23.2-1B*)
3 days	42 MPa (6095 psi)	
7 days	48 MPa (6965 psi)	
28 days	56 MPa (8125 psi)	

W/S = 0.18 [4.6 L (1.21 US gal)/bag]

SikaGrout®-212 tested with 1 bottle of 150 mL Sikacem® Accelerator (ASTM C109*)

Temperature	24 hours	2 days	3 days	28 days
0 °C (32 °F)	2 MPa (290 psi)	13 MPa (1932 psi)	24 MPa (3550 psi)	41 MPa (5946 psi)
10 °C (50 °F)	18 MPa (2624 psi)	33 MPa (4855 psi)	40 MPa (5756 psi)	48 MPa (6960 psi)
23 °C (73 °F)	37 MPa (5366 psi)	42 MPa (6070 psi)	45 MPa (6461 psi)	56 MPa (8125 psi)

W/S (water + Sikacem® Accelerator/SikaGrout®-212) = 0.18 [4.6 L (1.21 US gal)/bag]

*Fluid consistency compressive strengths are given as minimum guidelines. Pourable and dry pack consistencies will easily exceed these values. All moulds, mixing tools and powder components were pre-conditioned to the test temperatures. Prepared test specimens were cast and then cured at the indicated test temperatures until the time of testing. Lid should be clamped on mold at all time.

Pull-Out Resistance

With 38 mm (1.5 in) diameter hole

Hole Depth	Load Failure	Comments
125 mm (5 in)	78.6 kN (17 670 lbf)	Concrete block split in half
190 mm (7.5 in)	108.2 kN (24 324 lbf)	Concrete block split in half
250 mm (10 in)	126.4 kN (28 416 lbf)	Concrete block split in half

Data based on results obtained from pull tests on 15 M, epoxy coated rebars grouted into 30 MPa (4350 psi), 80 ± 10 mm slump, 6 ± 1 % air entrained concrete block.

Expansion	**Hardened Expansion (28 days)** > 0 – ≤ + 0.3 %		(ASTM C1090)
Flow Rate	< 30 sec		(CAN/CSA A23.2-1B)
Freeze thaw resistance	300 cycles	92 %	(ASTM C666) Procedure A

APPLICATION INFORMATION

Mixing Ratio	▪ Maximum: 4.6 L (1.21 US gal) water/bag ▪ Maximum: 4.15 L (1.15 US gal) water/bag for Anchor Bolt Grouting Applications	
Yield	Approx. 13 L (0.46 ft^3) per bag of fluid grout	
Application Time	1 hour max.	
Initial Set Time	4 to 5 h 30 min	(ASTM C403)
Final Set Time	5 to 7 hours	(ASTM C403)

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.
Properties tested at 23 °C (73 °F) and 50 % R.H. unless stated otherwise.

LIMITATIONS

- **Important:** protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps.
- For best results, condition product to temperatures ranging from 18 °C to 29 °C (65 °F to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Maintain wet grout, ambient and substrate temperatures between 5 °C and 32 °C (41 °F and 89 °F) for a period of 72 hours after placing, unless using Sikacem® Accelerator in mix (refer to Technical Data section).
- SikaGrout®-212 must be protected from freezing during setting.
- Minimum application thickness (neat without additional aggregate): 25 mm (1 in).
- Maximum application thickness (neat, without additional aggregate): 150 mm (6 in). Thicker applications are possible with the addition of suitable aggregate. Contact Sika Canada.
- For anchor bolt/dowel grouting, hole diameter should be 25 mm (1 in) greater than bar diameter.
- Anchor bolt/bar holes should be pre-dampened for a period of one (1) hour prior to grouting. Holes must be in saturated surface dry (SSD) condition at time of grouting.
- Do not use as a patching or overlay mortar or in unconfined areas.
- Use only potable water.
- Extending with aggregates will reduce compressive and flexural strengths. Dimensions and grading of aggregates will influence effect on physical properties; pre-testing is recommended.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

All grease, oil laitance, ice or snow and any foreign deposits shall be removed from all surfaces with which the grout will come in contact. The concrete foundation shall be roughened to the extent that it does not present a smooth surface, which would impede the bond of the grout to the foundation. All dust and loose particles shall be removed by sandblasting, high pressure waterblasting or other suitable means.

Concrete foundations less than 28 days old shall be kept wet for at least 12 hours, and older foundations for a minimum of 24 hours before placing grout (SSD condition). All free-standing water shall be removed from concrete surfaces prior to grouting. All items to be grouted into place shall be properly positioned and anchored prior to grouting except for anchor bolts and dowels, which may be placed into the fresh grout if job conditions permit and at the discretion of the engineer

in charge. For grouting of base plates the formwork used to contain the grout shall be appropriately constructed and caulked to prevent leakage of grout. Provisions shall be made at the high points for air to be vented as it is displaced by grout.

MIXING

Mix using a heavy duty low-speed drill (300–450 rpm) and mixing paddle (*Jiffy* or *Exomixer®*) or in a grout mixer. The size of the mixer should be appropriate to the volume of grout required. Use a minimum amount of water consistent with placeability requirements. After all dry product has been added to the water, continue mixing for three (3) minutes. For application greater than 150 mm (6 in) in thickness, add up to 12 kg (26.5 lb) of 10 mm (3/8 in) coarse aggregate. The aggregate must be non-reactive (reference ASTM C1260, C227, and C289), clean, well-graded, saturated surface dry, have low absorption, high density and comply with ASTM C33, size number 8 per table 2.

APPLICATION

The prepared grout may be pumped or transported to the forms in buckets or wheelbarrows and deposited without delay. External vibration and agitation of the grout in the forms is permitted. Grout having been prepared but not placed within one (1) hour after preparation shall be discarded. Prepared grout shall be agitated until use. Several hours after placement of grout (depending on ambient temperatures) forms may be removed and exposed grout shoulders may be trimmed or shaped to desired finish.

Dry pack application: Refer to the Sika® Cementitious Grouting Method Statement.

CURING TREATMENT

As per ACI 308 recommendations for cement concrete, curing is required. To achieve performance consistent with Technical Data, curing must be provided by recognized curing methods, such as wet burlap covered with white polyethylene film, misting with water, or approved water-based curing compound, such as Sika® Florseal WB-18 & -25. Usage of Sika® Ultracure DOT™ or NCF™ wet curing blankets is also strongly recommanded. Curing must commence immediately after placing and finishing. Protect freshly applied grout from direct sunlight, wind rain and frost.

CLEAN UP

Clean all tools and equipment immediately after use with water. Once hardened, material can only be removed manually or mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

Sika Canada Inc.
Head Office
601, avenue Delmar
Pointe-Claire, Quebec
H9R 4A9
1-800-933-SIKA
www.sika.ca

Other locations
Boisbriand (Quebec)
Brantford; Cambridge;
Sudbury; Toronto (Ontario)
Edmonton (Alberta)
Surrey (British Columbia)